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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/036,126
Filing Date: December 26, 2001
Appellant(s): LELENTAL ET AL.

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For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/27/2005 appealing from the Office action mailed 10/14/2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

- Claims 1-12 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muys et al (US Patent 5,391,472) as applied to claim 1 above, and further in view of Gardner et al (US Patent 5,910,385).

  Muys et al disclose transparent-antistatic coating compositions comprising:

  (i). *Poythiophene/polyanion dispersion* with a particle size of 5nm-1 micron, wherein polyanion compound being polyacrylic acid or *polystyrene sulfonic acid* (Col-3, Ln-60 to Col-4, Ln: 24; Col 5, Ln 16-65; Col-10, Ln: 8-54; Col-12, Table-I) < Limitation of instant Claims: 1-2, 4-5, 10, 17-19>,

  (ii). Various solvents/additives such as phenolic compounds, aliphatic polyhydroxy compounds such as *glycerol and sorbitol* < Limitation of instant Claims: 1, 3, 6, 7, 9, and 11>, monomeric carboxylic acids such as *furancarboxylic acid and NMP* < Limitation of Instant Claims: 1, 3, 6, 7, 8, and 11-12> (Col-7, Lines: 25-53, Col-12, Table-I). The coating compositions given in Table-I (Col-12) would meet the ratio limitations in instant claims 2-3. NMP, glycerol, sorbitol and polysaccharides would meet the limitation of neutral-charge conductivity enhancers in the instant claim-I.

(iii). A latex polymer binder having hydrophilic functionality such as copolymers of vinylidene fluoride and unsaturated carboxylic acid (Col-6, Lines: 55-60, Col-7, lines: 6-10, Col-9, Lines: 5-14, Col-12, Table-I).

Muys et al do not disclose or suggestive of the use of gelatin or its derivatlives as the binder in the composition for forming electrically conductive antistatic layer, however the disclosure teaches all the other limitations of the instant claims by the applicants.

In the analogous art, Gardner et al teach making electrically conductive compositions comprising dispersion of polyaniline-protonic counter-ion complex with an electrical conductivity of $1x10^4$ ohm-cm in a first solvent such as DMSO NMP and various alcohol, blends; and a second solvent such as chlorinated solvents, alcohols and glycol ethers and a blend, and binders such as gelatin and cellulose esters (Abstract, Col-2, Lines: 52-634 Col-12, lines: 5-8; Col-14, Lines: 42-55, Col-15, Lines: 10-15).

It would have been obvious to one with ordinary skill in the art to modify the antistatic layer coating composition of Muys et al by optionally choosing gelatin as the binder per the teachings of Gardner et al to benefit from improved adhesion and antistatic characteristics, because Muys et al teaches all the elements of the antistatic composition except the use of gelatin binder, while Gardner et al teach the formulation of antistatic coating compositions comprising gelatin as binder and its benefits, and because both the disclosures are in the analogous art, and with reasonable expectation of success in obviously arriving at the limitations of the instant claims by the applicants.

(10) Response to Argument

Appellants argue that (1) the teaching of the two references would not be combined by a skilled worker in the art, and (2) even if combined, a worker skilled in the art would not use the teaching in Gardner et al with the teaching in Muys et al to arrive at Appellants' antistatic composition of Claim 1. Appellants further argue that Muys polymeric particles are dispersed in the latex binder that is not hydrophilic in nature. Appellants further argue that the solvent systems of Muys and Gardner are different and incompatible.

The examiner respectfully disagrees with the appellant's arguments, because the latex binders taught by Muys are hydrophilic in nature that are applied as aqueous dispersions. See the extract of Column-3, Lines 48-55 from US-472 given below:

(26)(ii) Coating said hydrophobic polyester sheet or web, either before stretching or between said first and second stretching operation, on one or both sides, with a transparent antistatic primer layer, wherein the creating composition of said transparent antistatic primer layer comprises (1) a dispersion of a polythiophene with conjugated polymer backbone and a polymeric polyanion compound and (2) **a latex polymer having hydrophilic functionality.**

(27) By "latex polymer" is understood a polymer or copolymer that is applied as an aqueous dispersion (latex) of particles of said polymer or copolymer.

The Latex is known in the art as a white, tacky, aqueous suspension of a hydrocarbon polymer occurring either naturally or made synthetically (Hawley' s Condensed Chemical Dictionary, 14th Edition, 2002).

The hydrophilic latexes employed by Muys include **polyurethanes** (Col-6, Ln 64-66) and copolymers of vinylidene chloride-**alkyl methacrylate** and an ethylenically unsaturated carboxylic acid (Col-7, Lines 10-15, Col-12, Ln 5-11).

Gardner' s binders include the hydrophilic **ethyl methacrylate** homo and copolymers, and **polyurethanes** that are the same polymers listed by Muys under latexes, and further include gelatin and gelatin derivatives (US-385, Col-15, Ln 10-30). Gardner's binders are applied by dissolving the binder/s in a second solvent, wherein the preferred second solvents include **water and water miscible organics** (US-385, Col-15, Ln 51-53).

The examiner respectfully further disagrees with the arguments by the Appellants that the gelatin and gelatin derivatives as binders are buried in a laundry list of non-preferred binders by Gardner et al.

The 'Latexes" by Muys and the "Gelatins" by Gardner are encompassed by the common genus of hydrophilic binders in the art. This is further substantiated by the disclosure of Majumdar et al, that groups the hydrophilic colloids of 'Gelatins" by Gardner along with the "Latexes" by Muys such as polyurethanes and methacrylates in the common genus of water processable

polymers" <hydrophilic binder> in the common art of photography (US 6,025,119: Col-9, Line 64 to Col-11, Ln-8). The compatibility of gelatin and latexes in the antistatic coatings are further well known in the art of photography as shown by Muys et al (US 5,312,681; Col-5, Lines 6-11).

With regard to arguments by the appellants on the non-preferred embodiments in the prior arts:

A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art including nonpreferred embodiments. Merck & Co. v. Biocraft; Laboratories, 874 F.2d 804, 10 USPQM 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). See also Celeritas Technologies Ltd. v. Rockwell International Corp., 150 F.3d 1354, 1361, 47 USPQ2D 1516, 1522-23 Fed. Cir. 1998).

A person of ordinary skill in the art would be motivated to combine the references of Muys et al and Gardner et al, and substitute the hydrophilic latexes" of Muys with hydrophilic gelatin/gelatin derivatives" of Gardner et al as functional equivalents in the antistatic coatings with reasonable expectation of success. For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

(Kallambella M. Vijayakumar)

Conferees:

Dr. Yogendra Gupta

Patrick Ryan

latex

A white, tacky, aqueous suspension of a hydrocarbon polymer occurring naturally in some species of trees, shrubs, or plants, or made synthetically. The most important natural latex is that of the tropical tree *Hevea braziliensis*, which was the only source of rubber up to 1945. It is composed of globules of rubber hydrocarbon coated with protein; the particles are of irregular shape, varying from 0.5 to 3 microns in diameter; the suspension is stabilized by electric charges. The composition is about 60% water, 35% hydrocarbon, 2% protein, and low percentages of sugars and inorganic salts. For commercial purposes, rubber latex can be concentrated by evaporation or centrifugation. Ammonia is added as a preservative. Coagulation is induced by addition of acetic or formic acid. A vulcanized form is available. Natural latex is used in the manufacture of thin articles (surgeons' gloves and other medical equipment), as an adhesive, in foamed products, and for coating various products such as tire cord. Conversion of latex to gasoline via zeolite catalysts has been reported.

Other sources of rubber-containing latex are guayule, a shrub grown in Mexico and the southwestern U.S., and several types of dandelions and related species. The botanical function of latex in the plant is unknown.

Synthetic latexes are made by emulsion polymerization techniques from styrene-butadiene copolymer, acrylate resins, polyvinyl acetate, and similar materials. Their particle size is much smaller than in natural latex, ranging from 0.05 to 0.15 micron; thus, they are truly colloidal suspensions. Their chief use is as a binder in exterior and interior paints, replacing drying oils; they are also used for foams and coatings.

See guayule; gutta percha; electrophoresis; paint; emulsion; "Vultex."